Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Inquiry Concerning 911 Access, Routing and Location in Enterprise Communications Systems	)	PS Docket No. 17-239
	)	

To: The Commission

COMMENTS OF
THE BOULDER REGIONAL EMERGENCY TELEPHONE SERVICE AUTHORITY

The Boulder Regional Emergency Telephone Service Authority ("BRETSA"), by its attorney, hereby submits it's Comments on the Commission's September 26, 2017 Notice of Inquiry in the above-referenced proceeding ("NOI").[1]

I. 9-1-1 Calls Are Intrastate Calls Subject To State Jurisdiction.

9-1-1 calls are *intra*state calls. If a 9-1-1 call is delivered to a state other than that in which the call originated, it is a failure of the 9-1-1 System.

States may be inhibited from exercising jurisdiction regarding 9-1-1 given the Commission's recently increased attention to 9-1-1, and lack of clarity regarding the limits of the authority it is exercising. In Colorado, representatives of wireless and VoIP providers have told legislators and regulatory agencies that the Commission has preempted state authority, including in the areas of outage reporting, and that state oversight and action is not required in light of Commission action. Some providers have stated that states have no authority over 9-1-1 involving IP-enabled service.

The Commission's primary role with respect to 9-1-1 calling capabilities with Enterprise Communications Systems ("ECS") should be in the area of specifying minimum 9-1-1 dialing

[1] BRETSA is a Colorado 9-1-1 Authority which establishes, collects and distributes the Colorado Emergency Telephone Surcharge to fund 9-1-1 service in Boulder County, Colorado.

and location reporting capabilities of ECS systems and devices. In addition, it may be more difficult for state legislatures and regulatory authorities than for the Commission to keep current with the pace of technological development and deployment, given resource limitations. Through its Bureaus and Office of Engineering and Technology, the Commission is in a better position than many states to develop and maintain a knowledgebase regarding ECS and their 9-1-1 calling and reporting capabilities, for the benefit of state legislatures and regulatory agencies, as well as purchasers and users of ECS.[2]

A requirement for ECS to comply with these requirements would result in competition in the development of means for ECS to automatically provide PSAPs with location information of individuals calling 9-1-1. Some solutions may be based upon the PS-ALI model employed with traditional MLTS. Some solutions may adopt aspects of wireless 9-1-1 location technologies which have been deployed or proposed, including GPS, NEAD, Bluetooth beacons, leveraging computer network infrastructure, etc. There will also be competitive incentive for the development of more reliable and accurate location information *not* requiring the expense and possible failures of human intervention (as with manual development and maintenance of location databases).

The Commission should adopt and enforce rules regarding Commission approval of ECS marketed in the United States to assure (i) a user can reach a PSAP by dialing 9-1-1 without dialing additional digits, (ii) the ECS is capable of reporting the location of a station used to call 9-1-1 (ECS-ALI) either providing a building and unit number or other location identifier, in either case accurate within a reasonable number of feet (driven by the time required to search an

[2] Experience with the Internet has shown the value of "gatekeepers;" content providers filtering out erroneous, redundant, extraneous and inconsequential information and supplying reliable and informative information. Upon adoption of Rules pertaining to 9-1-1 performance of ECS, the Commission should provide reliable and informative information regarding systems and equipment meeting its equipment approval standards.

area of a given size for a non-responsive person in need of aid), and (iii) the ECS is capable of routing a 9-1-1 call to the correct PSAP. It should be left to the states to adopt criteria for conditions under which deployment of ECS-ALI will be required.

II. Longstanding Issues With Multi-Line Telephone System Calling To 9-1-1 Are Exacerbated By The Transition To IP-Based Enterprise Communications Systems.

Legacy Multi-line Telephone Systems ("MLTS") have long presented the same challenges involving 9-1-1 calling and location information for stations from which 9-1-1 calls were placed, as are now presented by ECS. These challenges included (i) requirements for users to "dial" a number to access an "outside line," before dialing 9-1-1, (ii) ALI delivered to a PSAP for a call from a Multi-Line Telephone System providing the location of the PBX or reception desk, rather than the location of the station from which the call was placed, and (iii) all 9-1-1 calls made through MLTS serving premises in multiple jurisdictions or multiple states being transmitted to the PSAP serving the jurisdiction in which the PBX was located. There were (are) solutions to these issues, such as an MLTS operator's subscription to "PS-ALI" or similar services; solutions which impose costs on MLTS operators.[3]

The issues with MLTS and 9-1-1 calling have been exacerbated by the development of IP-based ECS and broadband service, which facilitate service to remote facilities and users in multiple jurisdictions and states more easily and at less expense than required with legacy MLTS.

III. Solutions To Issues With Enterprise Communications System And 9-1-1.

The problem with a requirement that a user dial a number to access an outside line prior to dialing 9-1-1, are amply illustrated by the events prompting the proposal of Kari's Law. An individual might not know that they have to access an outside line prior to dialing 9-1-1, or may

[3] One Colorado 9-1-1 Authority pays the cost of PS-ALI for MLTS in its jurisdiction.

not recall the requirement in the excitement of an emergent situation. Presentations have been made to the Colorado 9-1-1 Task Force reporting that all ECS being marketed today can be programmed to permit direct dialing of 9-1-1 (without the need to first dial another number). The Commission can require that all ECS marketed in the United States meet this requirement independently of Congress consideration and passage of Kari's Law, and that the default programming of systems as installed permit direct dialing of 9-1-1, unless the ECS user meets criteria established by state or local authorities for 9-1-1 calls to be routed to an on-site location.

A. Automatic Location Information and Enterprise Communications Systems.

A different problem is posed when ALI data for an ECS serving a large building, a multi-building campus, or a building with many separately-secured units, provides the location of the PBX, the reception desk or the street address for the building. If the caller is unable to provide the PSAP with the location of the incident, whether because of the caller's condition, unfamiliarity with the premises, or some other reason; First Responders must search the entire building, or all buildings on the campus for the caller, victim or incident location. This can substantially delay rendering of aid or other emergency response. Where there are separately-secured units as in an apartment building, and the caller has become non-responsive, for example, First Responders must be accompanied by a building manager with a master key, or make a choice whether or not to break-in the door of any unit where their knock goes unanswered.

Where an ECS serves locations in more than one jurisdiction, whether different cities or counties, or different states; the problem is that 9-1-1 calls could be routed to the PSAP serving the jurisdiction in which the PBX or IP-PBX is located. As BRETSA understands it, unless stations in remote locations are connected to local access lines or other access to the PSTN

(including wireless services) in that remote location and are programmed to route 9-1-1 calls originating in the remote location to the local PSTN, 9-1-1 calls from remote stations would be routed through the ECS to the PSAP serving the PBX location. While PSAPs serving jurisdictions bordering adjacent states have developed means of transferring 9-1-1 calls or relaying call-information to neighboring PSAPs in adjacent states, PSAPs generally have limited ability to determine the location of a caller in another state and identify the PSAP serving that location, let alone to transfer the call to that PSAP. Even when a 9-1-1 call is misrouted within the same state, significant delay may occur in the identification of the PSAP which should receive the call, and transfer of the call (where the local 9-1-1 network provides for call transfer), or relay of call information. (There is a practical limit on the size of the area with which a dispatcher can be expected to be familiar, and on the mapping resources which a PSAP can justify the investment to keep current and available.)

B. Routing Of Enterprise Communication System 9-1-1 Calls To On-Site Locations.

There are situations in which a 9-1-1 call should be routed to a resource local to the premises served by the ECS. BRETSA understands some military bases have purchased CAD systems and stood up their own private PSAPs which dispatch Military Police to incidents, while relaying fire and perhaps medical calls to civilian authority PSAPs. Some college campuses such as the University of Colorado Boulder Campus maintain their own police force and dispatch center, with 9-1-1 calls from campus locations being initially routed to the campus PSAP.[4] Ski resorts tend to have their own dispatch centers which coordinate response by Ski Patrol. Public First Responder agencies generally don't respond to incidents on the slopes of a ski resort.

[4] In fact the University of Colorado Boulder Campus PSAP is one of the four PSAPs which share a common CAD system and hosted PSAP telephone system provided by BRETSA.

Some large industrial plants employ emergency personnel, or contract for paramedics and ambulances, to be on-site during operating hours to respond to accidents. Emergency response to on-site incidents can be expedited by routing 9-1-1 calls to the on-site responders, as well as to the local PSAP with knowledge that on-site responders are available for dispatch.

Memory care facilities, assisted living facilities, and nursing homes may have residents suffering from dementia or Alzheimer's disease and in paranoid phases of the disease progressions, who might seek to call 9-1-1 to report imagined threats or crimes. Care facilities may employ on-site qualified medical personnel to respond to medical emergencies, and some residents may be subject to "do-not-resuscitate" orders. For these ECS users, receipt of 9-1-1 calls on-site will permit interdiction of false calls to 9-1-1, and/or to alert on-site personnel to respond to the emergency. In other cases, notification that 9-1-1 has been called can alert enterprise personnel to respond to the incident as they are able, guide First Responders to the location of the caller upon their arrival, commence evacuation of the premises or take other action as indicated by the nature of the emergency.

C. States Should Determine When ECS Operators Should Be Required To Employ An ECS-ALI Solution.

As discussed above, the Commission should require manufacturers of ECS to develop systems (i) providing for direct dialing of 9-1-1, (ii) providing for 9-1-1 calls from remote sites to be delivered to the PSAPs serving the remote sites, and (iii) providing the location of the 9-1-1 *caller* (station from which the call is placed) to the PSAP. States should determine the criteria under which ECS operators are required to implement these solutions. This could include state delegation of some of the criteria to local authorities.

BRETSA believes that every state would require ECS to provide direct dialing of 9-1-1 (dialing 9-1-1 without first entering an additional number to seize an outside line), and routing of

9-1-1 calls from remote sites to the PSAPs serving those sites. Nevertheless, the adoption of such criteria is a state right and responsibility.

Because 9-1-1 calls are intrastate calls, states also have the right and responsibility to determine the criteria under which ECS will be required to report the caller's location to the PSAP. Criteria could include those discussed by BRETSA above: size of the premises served by the ECS, number of separately secured units in the premises served by the ECS, separate premises on single campus or located in different jurisdictions served by the ECS, and/or other criteria the state may deem appropriate. States may also establish criteria under which an ECS user can elect to have 9-1-1 calls routed to an on-site location, or to have the ECS user automatically notified when 9-1-1 is dialed from an ECS extension.

States may also delegate these decisions to local authorities. BRETSA has proposed above that the default programming or configuration of ECS permit direct dialing of 9-1-1, unless the ECS user meets criteria established by state or local authorities for 9-1-1 calls to be routed to an on-site location. Local authorities/PSAPs are in the best position to establish the criteria and circumstances under which routing of ECS 9-1-1 calls to an onsite location rather than a PSAP would be permitted. Local authorities would also be in the best position to establish individual exceptions to the requirement that 9-1-1 calls be delivered to a PSAP under the circumstances of a specific user, including the overall emergency response plan for the specific ECS user (as in the case of a major industrial complex, chemical plant or similar user), and other relevant facts.

This solution under which the Commission would establish equipment requirements for ECS systems and devices to enable compliance with 9-1-1 calling and ALI requirements, and state or local authorities would establish the criteria for implementation of such requirements,

would meet the needs of First Responders and the public for expeditious Emergency Response to 9-1-1 calls from ECS. It would preserve state jurisdiction over 9-1-1 (intrastate) calls. It would also meet the Commission's interest in promoting effective 9-1-1 service within its jurisdiction over equipment requirements.

IV. Other Issues With Emergency Communications Systems: Impacts On 9-1-1 Funding.

PSAPs in Colorado and other states are seeing decreases in total 9-1-1 surcharge, fee and tax remittances, for which they are unable to determine the cause. BRETSA understands that with traditional MLTS systems, PBXs were served by trunks. A surcharge was collected and remitted for each line derived from the trunks subscribed to the MLTS.

IP ECSs are connected to a broadband transmission facility with a number of voice channels derived from a broadband connection. With fiber, for example, the bandwidth and the number of voice channels which *can be* derived is driven more by the equipment connected to the fiber than by the number of strands of fiber provided. The number of voice channels *actually* derived is determined by the user's need for voice channels and the amount of bandwidth used for data transmission. It is unclear how providers calculate the amount of the 9-1-1 surcharge, fee or tax to be collected and remitted on broadband facilities serving IP ECS, or if there is even consistency among providers in the manner in which they calculate the amounts to be remitted.

BRETSA believes one 9-1-1 surcharge should be collected and remitted for each voice channel derived from a broadband facility connected to an IP ECS. (As with traditional trunk lines, there are efficiencies in use of trunks such that the number of telephone lines/voice channels derived from the subscribed trunks or bandwidth does not equal the number of stations served by a traditional MLTS or IP ECS.) Commission adoption of equipment requirements for monitoring, recording and reporting the number of voice channels derived from subscribed

bandwidth for purposes of determining or auditing 9-1-1 surcharge, fee or tax liability would assist in assuring all users contribute their fair share to support 9-1-1 service.

Respectfully submitted,

BOULDER REGIONAL EMERGENCY TELEPHONE SERVICE AUTHORITY

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November 15, 2017